RECEIVED
CENTRAL FAX CENTER

NOV 17 2008

AMENDMENTS TO THE CLAIMS

Claim 1. (Currently Amended) A method for modulating the morphology of softwood pulp fibers comprising the steps of

subjecting the pulp fibers to a metal ion-activated peroxide treatment carried out at a pH of between about 1 and about 9 for a time of from about 10 minutes to about 10 hours at a temperature of from about 40 to 120°C, and

subjecting the pulp fibers to a refining treatment to form refined paper making pulp fibers.

Claim 2. (Original) The method of Claim 1 wherein said metal ion is a transitional metal ion.

Claim 3. (Original) The method of Claim 1 wherein said metal ion is iron.

Claim 4. (Original) The method of Claim 1 wherein said pH is between about 3 and about 7.

Claims 5-6. (Cancelled)

Claim 7. (Original) The method of Claim 1 wherein said peroxide is present with said solution at a concentration of between about 0.2% and about 5% based on pulp.

Claim 8. (Original) The method of Claim 1 wherein said metal ion is present in said solution at a concentration of between about 0.002% and about 0.1% on pulp.

Claim 9. (Previously Presented) The method of Claim 1 wherein said softwood pulp fibers is subjected to said solution for a time sufficient to substantially act on at least the cellulose and hemi-cellulose of the pulp, causing oxidation and oxidative degradation of cellulose fibers.

Claims 10-19. (Canceled)

Claim 20. (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are Kraft pulp fibers.

Claim 21. (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are Southern Pine pulp fibers.

Claim 22. (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are bleached pulp fibers.

Claim 23. (Previously Presented) The method of claim 1 wherein said softwood pulp fibers are bleached Kraft pulp fibers.

Claim 24. (Previously Presented) The method of claim 1 wherein said refined pulp fibers exhibit a substantially shorter fiber length and distribution and enhanced fiber collapsibility than prior to treatment.

Claim 25. (Previously Presented) The method of claim 1 wherein said refined pulp fibers exhibit paper making properties substantially functionally equivalent to hardwood pulp papermaking properties.

Claim 26. (Previously Presented) The method of claim 1 wherein subjecting comprises treating said pulp fibers with a composition comprising peroxide and metal ions.

Claim 27. (Previously Presented) The method of claim 1 wherein said metal ions are selected from the group consisting of iron, copper, cobalt or a combination of two or more thereof.

Claim 28. (Previously Presented) The method of Claim 1, comprising subjecting the pulp fibers to a metal ion-activated peroxide treatment carried out at a pH of between about 1 and about 7 at a temperature of from 40 to 120 degrees Celcius for a time period of from 10 minutes to 600 minutes: and

subjecting the pulp fibers to a refining treatment to form refined paper making pulp fibers.

Claim 29. (Previously Presented) The method according to Claim 1, further comprising adding a metal ion to peroxide.

Claim 30. (Previously Presented) The method according to Claim 29, further comprising adding a metal ion to peroxide in the presence of the pulp.

Claim 31. (Previously Presented) The method according to Clam 30, further comprising adding between about 0.002% and about 0.1% of metal ion based on pulp to peroxide in the presence of the pulp.

Claim 32. (Previously Presented) The method according to Clam 29, further comprising adding between about 0.002% and about 0.1% of metal ion based on pulp

Claim 33. (Previously Presented) A pulp comprising between about 50% and 90% hardwood pulp and the remainder being softwood pulp which has been subjected to the method according to claim 32.

Claim 34. (Currently Amended) A method for modulating the morphology of softwood pulp fibers, comprising

adding a metal ion source to a solution comprising peroxide to form a metal-ion activated peroxide; ~~and~~

contacting the pulp fibers with the metal ion-activated peroxide at a pH of between about 1 and about 9 <u>for a time of from about 10 minutes to about 10 hours at a temperature of from about 40 to 120°C, and</u>

<u>refining the pulp fibers</u>.

Claim 35. (Cancelled)

Claim 36. (Previously Presented) The method according to Claim 34, wherein the metal ion source is a metal salt.

Claim 37. (Previously Presented) The method according to Claim 34, wherein the metal ion source is added at an amount such that between about 0.002% and about 0.1% of metal ion is present based upon the weight of the pulp.

Claim 38. (Previously Presented) The method according to Claim 34, comprising

contacting the pulp fibers with the metal ion-activated peroxide at a pH of between about 1 and about 7 at a temperature of from 40 to 120 degrees Celcius for a time period of from 10 minutes to 600 minutes.